# Proposition 1E Stormwater Flood Management Grant Proposal
# Lake Wohlford Dam Replacement Project
## *Attachment 4: Budget*

Attachment 4 consists of the following items:

- ✓ **Total Cost Estimate.** This attachment presents the overall cost of project implementation.
- ✓ **Detailed Work Item Budgets.** This attachment provides a budget estimate for each budget category row of this proposal.

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This attachment provides detailed budget documentation to support each cost shown in the tables below under the section entitled Detailed Work Item Budgets. Please note that for many of the budget categories shown in the tables, there may be several tasks and sub-tasks. Tables 4-2 through 4-7 also present the proposed funding match for each task within the project, including information that describes how the City of Escondido will meet their funding match of 51 percent of the total project costs.

## Total Cost Estimate

Table 4-1 presents the overall cost of project implementation. Detailed cost estimates for each task contained in the proposal follow. The specific work items outlined in Attachment 3 are reflected in the detailed cost estimates.

The required 50% funding match will be met by the City of Escondido obtaining federal appropriations and/or the issuance municipal bonds. The City plans to go before City Council in the next year to gain approval to issue municipal bonds for multiple projects, including the *Lake Wohlford Replacement Dam Project*. The City anticipates a successful bond issuance as Utilities are a preferred municipal bond, the requested bonds are well within the City's bonding capacity, and the City is rated A+ by Standard & Poor's.

**Table 4-1: Summary Budget ($2009)**

| Table 6 – Project Budget | | | | | | |
|---|---|---|---|---|---|---|
| **Budget Category** | | **Non-State Share (Funding Match)** | **Requested Grant Funding** | **Other State Funds Being Used** | **Total** | **% Funding Match** |
| **(a)** | Direct Project Administration Costs | $400,000 | $0 | $0 | $400,000 | **100%** |
| **(b)** | Land Purchase/Easement | $0 | $0 | $0 | $0 | **N/A** |
| **(c)** | Planning/ Design/ Engineering/ Environmental Documentation | $2,648,100 | $2,150,000 | $0 | $4,798,100 | **55%** |
| **(d)** | Construction | $10,000,000 | $10,000,000 | $0 | $20,000,000 | **50%** |
| **(e)** | Environmental Compliance/ Mitigation/ Enhancement | $1,000,000 | $1,000,000 | $0 | $2,000,000 | **50%** |
| **(f)** | Construction Administration | $500,000 | $500,000 | $0 | $1,000,000 | **50%** |
| **(g)** | Other Costs | $250,000 | $250,000 | $0 | $500,000 | **50%** |
| **(h)** | Construction Contingency | $1,000,000 | $1,000,000 | $0 | $2,000,000 | **50%** |
| **(i)** | **Grand Total** | **$15,798,100** | **$14,900,000** | **$0** | **$30,698,100** | **51%** |
| **(j)** | **Calculation of Funding Match %** | **51%** | **49%** | **0%** | **100%** | |
| *Sources of Funds for Non-State Share (Funding Match):*<br>*The non-state share funding match will be provided by the sale of municipal bonds (City of Escondido) and potentially through federal funding sources.* | | | | | | |

## Detailed Work Item Budgets

Detailed budgets for each of the tasks included within this proposal, including a summary budget and supporting cost information are provided in the following sections. This grant proposal is requesting funding for eight project tasks identified within the *Lake Wohlford Dam Replacement Project* Work Plan (refer to Attachment 3).

**Table 4-2: Cost Breakdown by Work Plan Task and Subtask**

| Row/Task | Category | Total |
|---|---|---|
| Row (a) | Direct Project Administration Costs | $400,000 |
| *Task 1* | *Project Administration* | *$400,000* |
| *Task 2* | *Labor Compliance Program* | *Included in Task 11* |
| *Task 3* | *Reporting* | *Included in Task 1* |
| Row (b) | Land Purchase / Easement | N/A |
| Row (c) | Planning / Design / Engineering / Environmental Documentation | $4,798,100 |
| *Task 4* | *Assessment and Evaluation* | *$498,100* |
| *Task 5* | *Final Design* | *$3,390,000* |
| *Task 6* | *Environmental Documentation* | *$770,000* |
| *Task 7* | *Permitting* | *$140,000* |
| Row (d) | Construction | $20,000,000 |
| *Task 8* | *Construction Contracting* | *Included in Task 11* |
| *Task 9* | *Construction* | *$20,000,000* |
| Row (e) | Environmental Compliance / Mitigation / Enhancement | $2,000,000 |
| *Task 10* | *Environmental Compliance / Mitigation / Enhancement* | *$2,000,000* |
| Row (f) | Construction Administration | $1,000,000 |
| *Task 11* | *Construction Administration* | *$1,000,000* |
| Row (g) | Other Costs | $500,000 |
| Row (h) | Construction Contingency | $2,000,000 |
| **Row (i)** | **Grand Total** | **$30,698,100** |

The sections below provide detailed descriptions of each of the row and task budgets (where applicable) shown in the summary table above. In addition, each description below describes how cost estimates for each of the tasks or rows were calculated.

### Row (a) Direct Project Administration Costs

#### Task 1 – Project Administration

This task includes the costs of administering the *Lake Wohlford Dam Replacement Project*. Loaded hourly wages for relevant City of Escondido staff are listed in Table 4-3, along with the estimated labor hours that will be needed for project management. Project administration costs are estimated to total $399,232 in labor for work performed by the Department Assistant, Utilities Contraction Manager, Deputy Director of Utilities Construction and Maintenance, Engineer II, Utilities Analyst, and Management Analyst II, and $768 for various office supplies throughout the project timeframe.

#### Task 2 – Labor Compliance Program

The City of Escondido administers an approved LCP program for all construction projects. That program will be implemented within the Construction Administration task (see Task 11); therefore, no budget is included here.

#### Task 3 – Reporting

This task will include preparation and submittal of a Project Assessment and Evaluation Plan (PAEP), quarterly reports and invoices, and a Project Completion Report in accordance with the DWR contract. All reporting will be performed by staff members from the City of Escondido under the Project Administration task (see Task 1); therefore, no budget is included here.

**Table 4-3: Row (a) Direct Project Administration Budget**

| Discipline | Hourly Wage ($/hr) | Number of Hours | Total | Funding Match | Grant Request |
|---|---|---|---|---|---|
| **Labor** | | | | | |
| Department Assistant | $32 | 2,000 | $63,265 | $63,265 | $0 |
| Utilities Construction Manager | $64 | 500 | $31,808 | $31,808 | $0 |
| Deputy Director of Utilities Construction and Maintenance | $74 | 500 | $37,098 | $37,098 | $0 |
| Engineer II | $49 | 2,500 | $122,444 | $122,444 | $0 |
| Utilities Analyst | $49 | 2,500 | $123,193 | $123,193 | $0 |
| Management Analyst II | $43 | 500 | $21,424 | $21,424 | $0 |
| **Equipment / Supplies** | | | | | |
| Office supplies, reproductions, etc. | -- | -- | $768 | $768 | $0 |
| | | **Total** | **$400,000** | **$400,000** | **$0** |

### Row (b) Land Purchase / Easement

Not applicable.

### Row (c) Planning / Design / Engineering / Environmental Documentation

The total planning / design / engineering / environmental documentation costs for the project are $4,798,100. Table 4-4 provides a detailed listing of all applicable costs. The cost total is based on the following:

#### Task 4 – Assessment and Evaluation

This task includes costs to prepare the *Evaluation of Alternatives to Mitigate Liquefaction Potential of Lake Wohlford Dam* report (GEI 2008a), *Lake Wohlford Dam Replacement Geotechnical Data* report (GEI 2010b), and the *Evaluation of Alternatives for Replacement of Lake Wohlford Dam* report was (GEI 2010a). These reports are described in greater detail in the Work Plan (Attachment 3, see Task 4).

The assessment and evaluation cost of $498,100 was determined based on actual billing by the consultant team.

#### Task 5 – Final Design

As described in the Work Plan (Attachment 3), final design for the *Lake Wohlford Dam Replacement Project* will include 10%, 60%, 90%, and 100% design deliverables. The total cost for final design is estimated at $3,390,000.

10% pre-design efforts will include a Pre-Design Report that will describe preliminary siting of project components, including the replacement dam, spillway, outlet tunnel, and other factors of major consideration. Costs associated with the pre-design phase will include 1,000 labor hours of engineering and 3,500 labor hours of geological, for a total of $830,000.

60% design will be considered advanced design that will include preliminary details and sections of the proposed project. This design will define actions and activities associated with abutment and foundation tie-ins, spillway and piping, and all required demolition. Costs associated with the advanced design phase will include 6,000 labor hours of engineering and 1,000 labor hours of geological, for a total of $1,380,000.

90% design will include a complete set of construction plans and technical specifications, a bid schedule, and final construction cost estimates. Costs associated with the 90% design phase will include 2,000 labor hours of engineering and 500 labor hours of geological, for a total of $490,000.

100% final design will include preparation of a final design package that is ready to advertise. Costs associated with the final design phase will include 1,500 labor hours of engineering, for a total of $300,000.

Additionally, the budget presented in Table 4-4 below includes a design contingency of $390,000, based on 13% of the estimated design costs. This percentage was based on agency experience with other large-scale engineering projects.

**Task 6 – Environmental Documentation**

Because of the potential for significant adverse environmental impacts, this project will require preparation of a joint CEQA/NEPA document. At this time, it is assumed that the City of Escondido will prepare a Lake Wohlford Dam Replacement Project EIR/EA. The costs associated with this effort are $770,000, half of which will be provided by the City of Escondido and the other half requested as grant funds. This cost of preparing the EIR/EA was determined based on agency and consultant experience preparing joint CEQA/NEPA documents that require collaboration with federal lead agencies.

**Task 7 – Permitting**

The City of Escondido is anticipating requirements for four permitting efforts associated with this project: CWA Section 401 Water Quality Certification, CWA Section 404 Authorization, waste discharge requirements, and possibly easement permits. The total anticipated costs associated with these permits are $140,000, half of which will be provided by the City of Escondido and the other half requested as grant funds. This cost of regulatory permitting was determined based on agency and consultant experience.

**Table 4-4: Row (c) Planning / Design / Engineering / Environmental Documentation Budget**

| Discipline | Hourly Wage ($/hr) | Number of Hours | Total | Funding Match | Grant Request |
|---|---|---|---|---|---|
| **Assessment and Evaluation** | | | | | |
| Lake Wohlford Dam Replacement Geotechnical Data | Lump Sum (single contract for both reports) | | $498,100 | $498,100 | $0 |
| Evaluation of Alternatives for Replacement of Lake Wohlford Dam | | | | | |
| **Final Design** | | | | | |
| 10% Design – Engineering | $200.00 | 1,000 | $200,000 | $100,000 | $100,000 |
| 10% Design – Geological | $180.00 | 3,500 | $630,000 | $315,000 | $315,000 |
| 60% Design – Engineering | $200.00 | 6,000 | $1,200,000 | $600,000 | $600,000 |
| 60% Design – Geological | $180.00 | 1,000 | $180,000 | $90,000 | $90,000 |
| 90% Design – Engineering | $200.00 | 2000 | $400,000 | $200,000 | $200,000 |
| 90% Design – Geological | $180.00 | 500 | $90,000 | $45,000 | $45,000 |
| 100% Design – Engineering | $200.00 | 1,500 | $300,000 | $150,000 | $150,000 |
| Design Contingency | Lump Sum (13% of design costs) | | $390,000 | $195,000 | $195,000 |
| **Environmental Documentation** | | | | | |
| Lake Wohlford Dam Replacement Project EIR/EA | $140.00 | 5,500 | $770,000 | $385,000 | $385,000 |
| **Permitting** | | | | | |
| Regulatory Permits | $140.00 | 1,000 | $140,000 | $70,000 | $70,000 |
| | | **Total** | **$4,798,100** | **$2,648,100** | **$2,150,000** |

## Row (d) Construction / Implementation

The Construction / Implementation costs for the project are estimated to be approximately $20,000,000. Table 4-4 provides a detailed listing of all applicable costs. This cost total is based on the following:

### Task 8 – Construction / Implementation Contracting

Tasks associated with construction contracting will be completed by City of Escondido staff. Therefore, the timeline, tasks, and budget associated with this task are contained within Task 11, Construction Administration.

### Task 9 – Construction / Implementation

Construction costs for this project have been provided as an estimated lump sum cost within Table 4-4 below. Because final design (see Task 5) has not yet been completed for this project, it is speculative to identify line-item costs for construction materials, equipment, and labor. In the *Evaluation of Alternatives for Replacement of Lake Wohlford Dam* report (GEI 2010a), the opinion of probable construction costs for an earth-core rockfill dam was $15,000,000 to $23,000,000. Estimated prices and costs were derived from published and non-published bid price data for similar work from similar projects, R.S. Means Heavy Construction Cost Data, discussions with local contractors and materials suppliers, and GEI's experience on related construction work.

The total cost included within this budget is $20,000,000, half of which will be provided by the City of Escondido and the other half requested as grant funds.

**Table 4-5: Row (d) Construction / Implementation Costs**

| Discipline | Unit Costs ($) | Number of Units | Total ($) | Funding Match | Grant Request |
|---|---|---|---|---|---|
| Dam Construction – Upstream Dam Shell, Downstream Dam Shell, Dam Embankment, Crest, Spillway, Outlet Piping, Emergency Release Valve, and Curtain | Lump Sum | | $20,000,000 | $10,000,000 | $10,000,000 |
| | | **Total** | **$20,000,000** | **$10,000,000** | **$10,000,000** |

## Row (e) Environmental Compliance / Mitigation / Enhancement

The Environmental Compliance / Mitigation / Enhancement costs for the project are $2,000,000. Table 4-5 provides a detailed listing of all applicable costs. This cost total is based on the following:

### Task 10 – Environmental Compliance/Mitigation/Enhancement

The Environmental Opinion completed for the *Lake Wohlford Dam Replacement Project* outlines the potential environmental impacts that may be associated with this project (ICF Jones and Stokes 2008a). Although the specific mitigation requirements would be determined after completion of the EIR/EA (see Task 6), this budget includes an estimated mitigation cost of $2,000,000.

The total estimated cost associated with this effort is $2,000,000, half of which will be provided by the City of Escondido and the other half requested as grant funds. This estimate is based on purchase of mitigation bank credits for 20 acres of disturbed habitat at $100,000 per acre (for southern mixed chaparral, non-native grassland, and freshwater marsh). The City of Escondido intends to use an existing mitigation bank for protection of coast live oak woodland.

**Table 4-6: Row (e) Environmental Compliance / Mitigation / Enhancement Costs**

| Discipline | Unit Costs ($) | Number of Units | Total ($) | Funding Match | Grant Request |
|---|---|---|---|---|---|
| Purchase of Mitigation Bank Credits for Disturbance of Sensitive Habitat | $100,000 | 20 | $2,000,000 | $1,000,000 | $1,000,000 |
| | | **Total** | **$2,000,000** | **$1,000,000** | **$1,000,000** |

### Row (f) Construction Administration

The Construction Administration costs for the project are estimated to be $1,000,000. This cost total is based on the following:

**Task 11 – Construction Administration**

Construction administration will require collaboration between City staff and consultants. The estimated $1,000,000 cost is based on labor hours for a consultant construction manager, consultant inspectors, a City Utilities construction manager, and a Department Assistant. The cost expected for this task is based on approximately 5% of the total construction costs.

**Table 4-7: Row (f) Construction Administration Costs**

| Discipline | Hours | Unit Cost ($) | Total Costs ($) | Funding Match | Grant Request |
|---|---|---|---|---|---|
| Consultant Construction Manager | 510 | $200 | $102,000 | $51,000 | $51,000 |
| Consultant Inspectors | 5800 | $150 | $870,000 | $435,000 | $435,000 |
| City Utilities Construction Manager | 200 | $60 | $12,000 | $6,000 | $6,000 |
| Department Assistant | 500 | $32 | $16,000 | $8,000 | $8,000 |
| | | **Total** | **$1,000,000** | **$500,000** | **$500,000** |

### Row (g) Other Costs

Other costs associated with the *Lake Wohlford Dam Replacement Project* include establishment of a Board of Consultants, as required by FERC. The Board of Consultants will meet to oversee the analysis, design, construction, and any potential problems that might arise during the design and construction of the Lake Wohlford Dam replacement structures. The costs associated with hiring three independent consultants for this effort is estimated at $500,000.

### Row (h) Construction Contingency

The Construction Contingency for the *Lake Wohlford Dam Replacement Project* is estimated to be $2,000,000. This was estimated to be approximately 10% of the total construction cost of $20,000,000. Half of this amount -- $1,000,000 -- is being requested as grant funding, and the other half will be provided as matching funds.

### Row (i) Grand Total

The grand total for the proposed *Lake Wohlford Dam Replacement Project* Work Plan (see Attachment 3) is $30,698,100.

**Table 4-8: Row (i) Grand Total Costs**

| Row | Budget Category | Total Costs |
|---|---|---|
| (a) | Direct Project Administration Costs | $400,000 |
| (b) | Land Purchase / Easement | $0 |
| (c) | Planning / Design / Engineering / Environmental Documentation | $4,798,100 |
| (d) | Construction / Implementation | $20,000,000 |
| (e) | Environmental Compliance / Mitigation / Enhancement | $2,000,000 |
| (f) | Construction Administration | $1,000,000 |
| (g) | Other Costs (Including Legal Costs, Permitting and Licenses) | $500,000 |
| (h) | Construction / Implementation Contingency | $2,000,000 |
| **(i)** | **Grand Total** | **$30,698,100** |